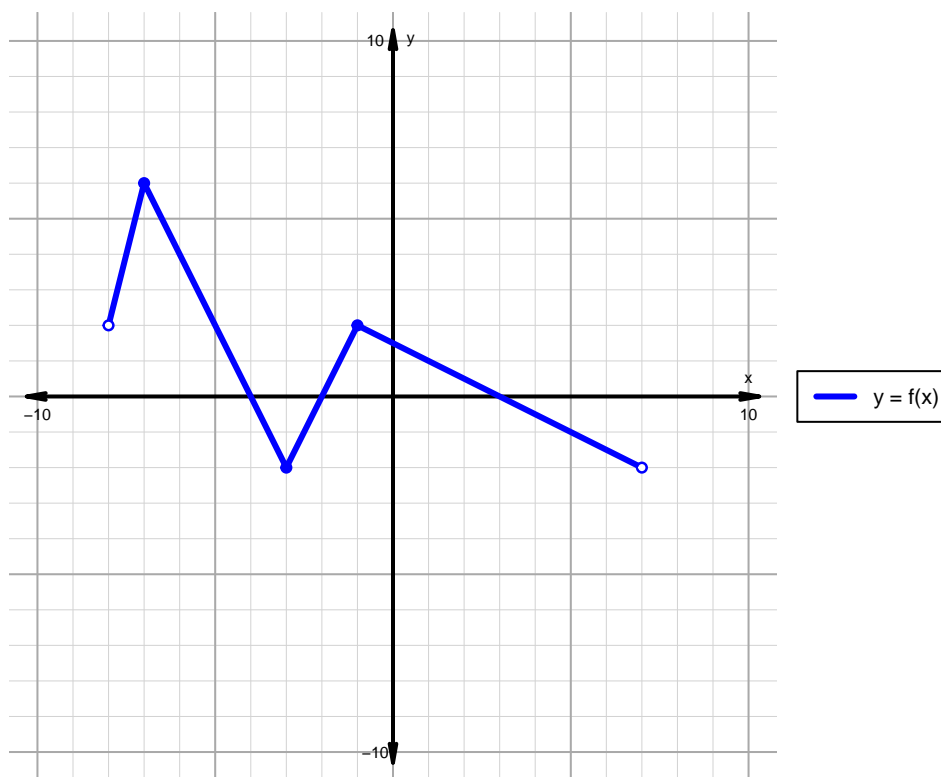


Name: \_\_\_\_\_

Date: \_\_\_\_\_

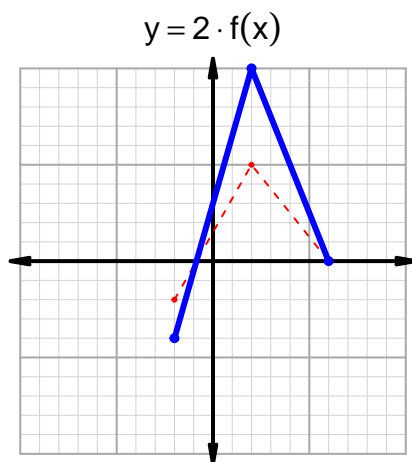
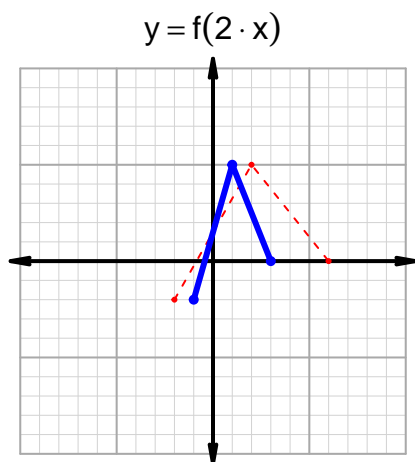
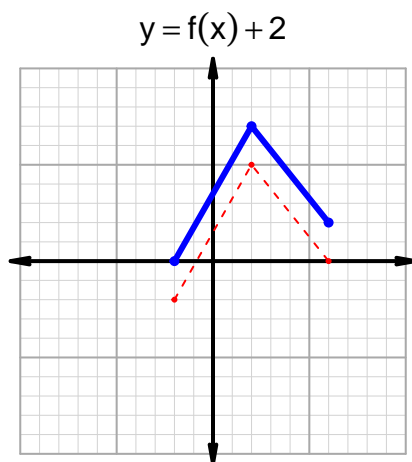
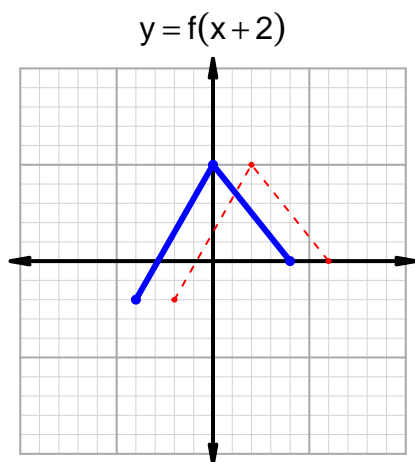
**Intervals, Transformations, and Slope Solution (version 26)**1. The function  $f$  is graphed below.

Indicate the following intervals using interval notation. Remember, you can use  $\cup$  between two intervals to indicate the union. Except for range, all intervals will indicate  $x$  values; this is standard.

Feature	Where
Positive	$(-8, -4) \cup (-2, 3)$
Negative	$(-4, -2) \cup (3, 7)$
Increasing	$(-8, -7) \cup (-3, -1)$
Decreasing	$(-7, -3) \cup (-1, 7)$
Domain	$(-8, 7)$
Range	$(-2, 6)$

## Intervals, Transformations, and Slope Solution (version 26)

2. In the four graphs below,  $y = f(x)$  is graphed as a dotted line. Please add the indicated transformed graphs indicated by the equations below using a solid line.



3. Let function  $g$  be defined by the table below. Use the formula  $\frac{g(x_2) - g(x_1)}{x_2 - x_1}$  to find the average rate of change between  $x_1 = 34$  and  $x_2 = 70$ . Express your answer as a reduced fraction.

$x$	$g(x)$
34	49
49	70
70	81
81	34

$$\frac{f(70) - f(34)}{70 - 34} = \frac{81 - 49}{70 - 34} = \frac{32}{36}$$

The greatest common factor of 32 and 36 is 4. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{8}{9}$$